





NATIONAL BUREAU OF STANDARDS  
THERMOPHYSICAL PROPERTIES DIVISION  
NATIONAL ENGINEERING LABORATORY  
BOULDER, COLORADO 80303

List of Publications, Supplement No. 3  
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- R-1198 A REVIEW, EVALUATION, AND CORRELATION OF THE PHASE EQUILIBRIA, HEAT OF MIXING AND CHANGE IN VOLUME ON MIXING FOR LIQUID MIXTURES OF METHANE + ETHANE, by M. J. Hiza, R. C. Miller and A. J. Kidnay. *J. Phys. Chem. Ref. Data* Vol 8, No. 3, 799-816 (1979). (American Chemical Society, Washington, D. C. - \$4.00)<sup>4</sup>
- R-1199 TOUGHNESS, FATIGUE CRACK GROWTH, AND TENSILE PROPERTIES OF THREE NITROGEN-STRENGTHENED STAINLESS STEELS AT CRYOGENIC TEMPERATURES, by D. T. Read and R. P. Reed. The Metal Science of Stainless Steels, Proc. 107th AIME Annual Meeting (Denver, Colo., Mar 2, 1978), E. W. Collings and H. W. King, Editors. The Metallurgical Society of the American Institute of Mechanical Engineers, Warrendale, Pa., 92-121 (1979). (No charge for single copy)<sup>6</sup>
- R-1200 COMPACT CAPACITOR FOR WIDE-RANGE DIELECTRIC CONSTANT MEASUREMENTS ON SMALL AMOUNTS OF FLUIDS, by G. C. Straty and B. A. Younglove. *Rev. Sci. Instrum.* Vol 50, No. 10, 1309-10 (Oct 1979). (No charge for single copy)<sup>6</sup>
- R-1201 PRESENT AND FUTURE SOURCES OF FLUID PROPERTY DATA, by N. A. Olien. American Society of Mechanical Engineers Winter Annual Meeting (New York, N. Y., Dec 2-7, 1979), Paper No. 79-WA/HT-19. American Society of Mechanical Engineers, New York, 7 pages (1979). (No charge for single copy)<sup>6</sup>
- R-1202 DIFFERENTIAL CAPACITANCE SENSOR AS POSITION DETECTOR FOR A MAGNETIC SUSPENSION DENSIMETER, by N. V. Frederick and W. M. Haynes. *Rev. Sci. Instrum.* Vol 50, No. 9, 1154-5 (Sep 1979). (No charge for single copy)<sup>6</sup>
- R-1203 SPACE APPLICATIONS OF SUPERCONDUCTIVITY: HIGH FIELD MAGNETS, by F. R. Fickett. *Cryogenics* Vol 19, No. 12, 691-701 (Dec 1979). (No charge for single copy)<sup>6</sup>
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- R-1205 SELECTED POROUS INSULATIONS FOR CRYOSYSTEMS, by R. P. Reinker, K. D. Timmerhaus and R. H. Kropschot. *ASHRAE J.* Vol 21, No. 12, 21-6 (Dec 1979). (No charge for single copy)<sup>6</sup>
- R-1206 VISCOSITY OF A MIXTURE OF SOFT SPHERES, by D. J. Evans and H. J. M. Hanley. *Phys. Rev. A* Vol 20, No. 4, 1648-54 (Oct 1979). (No charge for single copy)<sup>6</sup>
- R-1207 FORESIGHT--VOLUME I--SOCIETAL ASPECTS OF HYDROGEN ENERGY SYSTEMS, Proc. Hydrogen, A Workshop on Societal Aspects of Hydrogen Energy Systems (Reston, Va., Jun 4-7, 1978), L. A. Currie and R. H. Kropschot, Editors. Report prepared for the Subcommittee on Advanced Energy Technologies and Energy Conservation Research, Development and Demonstration of the Committee on Science and Technology, 161 pages (Dec 1978). (052-070-0526-8 - \$3.75)<sup>3</sup>
- R-1208 HYDROGEN ENERGY: TECHNOLOGICAL ISSUES, by W. R. Parrish and J. Hord. Foresight--Volume I--Societal Aspects of Hydrogen Energy Systems, Proc. Hydrogen, A Workshop on Societal Aspects of Hydrogen Energy Systems, (Reston, Va., Jun 4-7, 1978), L. A. Currie and R. H. Kropschot, Editors. Report prepared for the Subcommittee on Advanced Energy Technologies and Energy Conservation Research, Development and Demonstration of the Committee on Science and Technology, 75-81 (Dec 1978). (Complete Proc. - 052-070-0526-8 - \$3.75)<sup>3</sup>

- R-1209 SCENARIOS FOR THE WORKSHOP ON SOCIETAL ASPECTS OF HYDROGEN ENERGY SYSTEMS, by J. Hord, K. D. Moore, M. Beller and A. L. Hermelie. Foresight--Volume I--Societal Aspects of Hydrogen Energy Systems, Proc. Hydrogen, A Workshop on Societal Aspects of Hydrogen Energy Systems (Reston, Va., Jun 4-7, 1978), L. A. Currie and R. H. Kropschot, Editors. Report prepared for the Subcommittee on Advanced Energy Technologies and Energy Conservation Research, Development and Demonstration of the Committee on Science and Technology, 109-19 (Dec 1978). (Complete Proc. - 052-070-0526-8 - \$3.75)<sup>3</sup>
- R-1210 SOFTNESS EXPANSION OF GASEOUS TRANSPORT PROPERTIES. I. DILUTE GASES, by J. C. Rainwater. J. Chem. Phys. Vol 71, No. 12, 5171-82 (Dec 1979). (No charge for single copy)<sup>6</sup>
- R-1211 THE NONANALYTIC EQUATION OF STATE FOR PURE FLUIDS APPLIED TO PROPANE, by R. D. Goodwin. Equations of State in Engineering and Research, Proc. Conf. (Miami Beach, Fla., Sep 10, 1978), Advances In Chemistry Ser. No. 182, K. C. Chao and R. L. Robinson, Jr., Editors. American Chemical Society, Washington, D. C., 345-64 (1979). (No charge for single copy)<sup>6</sup>
- R-1212 LNG MATERIALS AND FLUIDS - A USER'S MANUAL OF PROPERTY DATA IN GRAPHIC FORMAT - Supplement 2 to First Edition, by N. A. Olien, Editor. Supplement sponsored by the Maritime Administration, the Gas Research Institute and the NBS Office of Standard Reference Data, 210 pages (1980). (\$15.00)<sup>6</sup>
- R-1213 ENERGY CONSERVATION THROUGH USE OF SECOND LAW ANALYSIS, by K. D. Timmerhaus and T. M. Flynn. Erdosel, Erdgas, Petrochem. Vol 33, No. 5, 208-14 (May 1980). (No charge for single copy)<sup>6</sup>
- R-1214 EQUILIBRIUM AND NON-EQUILIBRIUM RADIAL DISTRIBUTION FUNCTIONS IN MIXTURES, by H. J. M. Hanley and D. J. Evans. Mol. Phys. Vol 39, No. 4, 1039-42 (1980). (No charge for single copy)<sup>6</sup>
- R-1215 ORTHOBARIC LIQUID DENSITIES AND EXCESS VOLUMES FOR MULTICOMPONENT MIXTURES OF LOW MOLAR-MASS ALKANES AND NITROGEN BETWEEN 105 AND 125 K, by M. J. Hiza and W. M. Haynes. J. Chem. Thermodyn. Vol 12, No. 1, 1-10 (Jan 1980). (No charge for single copy)<sup>6</sup>
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- R-1217 COMPOSITION OF MIXTURES OF NATURAL GAS COMPONENTS DETERMINED BY RAMAN SPECTROMETRY, by D. E. Diller and R. F. Chang. Appl. Spectrosc. Vol 34, No. 4, 411-4 (1980). (No charge for single copy)<sup>6</sup>
- R-1218 STRUCTURAL ALLOYS FOR SUPERCONDUCTING MAGNETS IN FUSION ENERGY SYSTEMS, by H. I. McHenry and R. P. Reed. Nucl. Eng. Des. Vol 58, 219-36 (1980). (No charge for single copy)<sup>6</sup>
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- R-1221 (p,V,T) OF COMPRESSED FLUID ETHENE, by G. C. Straty. J. Chem. Thermodyn. Vol 12, No. 8, 709-16 (Aug 1980). (No charge for single copy)<sup>6</sup>

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- R-1223 SOLUBILITY OF CYCLOPROPANE IN AQUEOUS SOLUTIONS OF POTASSIUM CHLORIDE, by C. O. Zerpa, P. B. Dharmawardhana, W. R. Parrish and E. D. Sloan. J. Chem. Eng. Data Vol 24, No. 1, 26-8 (Jan 1979). (No charge for single copy)<sup>6</sup>
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- R-1225 INTERACTIVE FORTRAN IV COMPUTER PROGRAMS FOR THE THERMODYNAMIC AND TRANSPORT PROPERTIES OF SELECTED CRYOGENS (FLUIDS PACK), by R. D. McCarty. Nat. Bur. Stand. (U.S.) Tech. Note No. 1025, 112 pages (Oct 1980). (NBS TN-1025 - \$4.50)<sup>3</sup>
- R-1226 (p,V,T) OF COMPRESSED AND LIQUEFIED (NITROGEN + METHANE), by G. C. Straty and D. E. Diller. J. Chem. Thermodyn. Vol 12, No. 10, 937-53 (Oct 1980). (No charge for single copy)<sup>6</sup>
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- R-1231 COMPUTER SIMULATION OF AN m-6-8 FLUID UNDER SHEAR, by D. J. Evans and H. J. M. Hanley. Physica (Utrecht) A Vol 103, No. 1/2, 343-53 (Sep 1980). (No charge for single copy)<sup>6</sup>
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- R-1234 A STANDARDS PROGRAM FOR AC LOSSES IN SUPERCONDUCTORS, by R. Radebaugh, G. Fujii, D. T. Read and A. F. Clark. Progress in Refrigeration Science and Technology, Proc. International Institute of Refrigeration Conf., 15th (Venice, Italy, Sep 23-29, 1979), Session A 1/2, Paper 10. International Institute of Refrigeration, Paris, France, 4 pages (1980). (No charge for single copy)<sup>6</sup>
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- R-1238 ADVANCES IN CRYOGENIC ENGINEERING, Vol 25, Proc. 1979 Cryogenic Engineering Conf. (Madison, Wisconsin, Aug 21-24, 1979), K. D. Timmerhaus and H. A. Snyder, Editors. Plenum Press, New York, 868 pages (1980). (Plenum Press, New York - Price \$59.50)<sup>4</sup>
- R-1239 A THERMODYNAMICS OF STEADY HOMOGENEOUS SHEAR FLOW, by D. J. Evans and H. J. M. Hanley. Phys. Lett. A Vol 80, No. 2-3, 175-7 (Nov 1980). (No charge for single copy)<sup>6</sup>
- R-1240 DEVELOPMENTS OF STANDARDS FOR SUPERCONDUCTORS, by F. R. Fickett and A. F. Clark. ICEC 8, Proc. International Cryogenic Engineering Conf., 8th (Genoa, Italy, Jun 3-6, 1980), C. Rizzuto, Editor. IPC Science and Technology Press, Ltd., Guildford, Surrey, England, 494-8 (1980). (No charge for single copy)<sup>6</sup>
- R-1241 SPEED-OF-SOUND MEASUREMENTS FOR NITROGEN GAS AT TEMPERATURES FROM 80 to 350 K AND PRESSURES TO 1.5 MPa, by B. A. Younglove and R. D. McCarty. J. Chem. Thermodyn. Vol 12, No. 12, 1121-8 (Dec 1980). (No charge for single copy)<sup>6</sup>
- R-1242 STRAIN SCALING LAW FOR FLUX PINNING IN PRACTICAL SUPERCONDUCTORS. PART 1: BASIC RELATIONSHIP AND APPLICATION TO Nb<sub>3</sub>Sn CONDUCTORS, by J. W. Ekin. Cryogenics Vol 20, No. 11, 611-24 (Nov 1980). (No charge for single copy)<sup>6</sup>
- R-1243 THE THERMODYNAMIC PROPERTIES OF HELIUM II FROM 0 K TO THE LAMBDA TRANSITIONS, by R. D. McCarty. Nat. Bur. Stand. (U.S.), Tech. Note No. 1029, 64 pages (Dec 1980). (NBS TN-1029 - \$3.75)<sup>3</sup>
- R-1244 COLD UTILIZATION FROM LIQUEFIED NATURAL GAS, by T. M. Flynn and K. D. Timmerhaus. Progress in Refrigeration Science and Technology, Proc. International Institute of Refrigeration Conf., 15th (Venice, Italy, Sep 23-29, 1979), Session A 3/27. International Institute of Refrigeration, Paris, France, 7 pages (1980). (No charge for single copy)<sup>6</sup>
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